APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,148	09/25/2001	Stephen C. Hahn	SUN-P6407-PIP	1747

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EXAMINER
BULLOCK JR, LEWIS ALEXANDER

ART UNIT	PAPER NUMBER
2195	

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/964,148	HAHN ET AL.
	Examiner	Art Unit	
	Lewis A. Bullock, Jr.	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 February 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-8,10-13,15-19,21-24,26-30,32 and 33* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-8,10-13,15-19,21-24,26-30,32 and 33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 September 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some *   c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
   application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 2, 4, 6-8, 10-13, 15, 17-19, 21-24, 26, 28-30, 32 and 33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1, 2, 4, 6-8, 10, and 11 all detail a method for allocating computer system resources wherein the resources are components of a single computer system. However, there is no statutory teaching or manipulation as proper under M.P.E.P. 2106 for the method claims that would make it statutory. All of the cited limitations are software instructions which can be written out with paper and pencil, thereby being an abstract idea. Even the components of a single computer system, does not make the claims statutory because software instructions / algorithms are components of a computer system. Claim 11 does not correct the 101 problems either, because the claims state that the cited elements **can** includes these items. There is no definitive language within the claims language that the resources **are** these items. Therefore, As proper under M.P.E.P. 2111, the broadest possible interpretation of the claims would be that the items do not make up the resources. Similar reasons are made in regards to the apparatus claims, claims 23, 24, 26, 28-30, 32, and 33. In regards to claims 12, 13, 15, 17-19, 21 and 22, the same reason is made as detailed in the method claims with the following addition. The cited claims are computer-readable medium claims that according to the specification includes computer instructions signals embodied in a

transmission medium, such as the Internet. The Internet itself is an abstract

communication concept. The physical structure that implements the concepts of the

Internet would be considered a statutory concept, i.e. a plurality of computers wherein

information is requested and shared. The preamble also details "when executed by a

computer". This limitation is again not definitive of the invention being statutory. As

proper under M.P.E.P. 2111, the broadest possible interpretation of this limitation would

be that the are capable of being executed but aren't. Hence the claims are software

instructions. Stating that the instructions are executed is different in that it is definitive

that the instructions execute on the computer to perform the cited steps and thereby

enabling.

Claim Rejections - 35 USC § 112

2.   Claims 1, 2, 4-8, 10-13, 15-19, 21-24, 26-30, 32 and 33 are rejected under 35

U.S.C. 112, second paragraph, as being incomplete for omitting essential structural

cooperative relationships of elements, such omission amounting to a gap between the

necessary structural connections. See MPEP § 2172.01. The omitted structural

cooperative relationships are: the relationship of the minimum and maximum

requirements for a given resource to the collective requirements of the one or more

resource pools. The cited steps establishes and use the requirement values for

processing the overall allocating of resources. However, the cited requirement values

have no relationship to one another as disclosed in the claims. It seems that one

should exist but it is not evident in the claim language. Therefore, for further processing

of the claims the values would be considered to be distinct from one another. The

examiner would like a clarification from Applicant and/or an amendment to the claims if

this interpretation is incorrect.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1, 2, 4-8, 10-13, 15-19, 21-24, 26-30, 32 and 33 are rejected under 35

U.S.C. 103(a) as being unpatentable over UREVIG (U.S. Patent 6,154,787) in view of

EILERT (U.S. Patent 6,587,938).

As to claim 1, UREVIG teaches a method for allocating computer system

resources (resources, i.e. peripheral devices, memory, and or processing capacity)

between concurrently executing workloads (data processing systems), comprising:

establishing a first resource pool (via the STDM using a drive manager configuration

utility) that specifies requirements (the pool defined by STDM fulfills the following

requirements...) (col. 7, lines 52-62) for each of a plurality of different computer system

resources (col. 8, lines 19-55), wherein the plurality of different computer system

resources are components of a single computer system (peripheral devices typically

associated with a computer system) (col. 5, lines 14-24), allocating the plurality of

different computer system resources to one or more resource pools, including the first

resource pool, to create a resource allocation, wherein requirements of the first

resource pool are satisfied (col. 7, lines 52-62; col. 8, lines 19-55), wherein prior to

allocating the plurality of different computer system resources, verifying that collective

requirements of the one or more resource pools (via the STDM fulfilling the

requirements) can be satisfied (col. 7, lines 52-62; col. 8, lines 19-55) and wherein

resources allocated to the first resource pool can change over time (col. 8, lines 19-24);

and binding a first process (batch job) to the first resource pool, so that the first process

has access to the plurality of different computer system resources allocated to the first

resource pool (via the batch job requesting more resources that when handled by the

STDM edits the pool files to the batch job) (col. 7, lines 1-7; col. 8, lines 19-55).

However, UREVIG does not explicitly teach establishing minimum and maximum

requirements for a given resource or if the collective requirements cannot be satisfied,

signaling an error condition. UREVIG teaches that the verifying step is performed

automatically by the STDM to check the requirements in order to create the pools.

Official Notice is taken in that it is well known in the art that if an automatic operation

encounters a problem an error is generated. Therefore, it would be obvious to one

skilled in the art that should the requirements cannot be fulfilled that the pool would

generate an error.

EILERT teaches a resource allocation algorithm wherein establishing the first

resource pool involves establishing minimum and maximum requirements (priority

values) for a given resource (via setting the priority values in order to perform I/O on an

I/O resource) (col. 17, line 47 – col. 18, line 11) and dynamically changing the resource

allocation from one computing environment to another. It would be obvious to one of

ordinary skill in the art that the data processing systems of UREVIG are the partitioned

environments of EILERT. Therefore, it would be obvious to one of ordinary skill in the

art to combine the teachings of UREVIG with the teachings of EILERT in order to

facilitate the dynamically allocating of resources based on workload change

requirements (col. 2, lines 23-59).

As to claim 2, EILERT teaches allocating the plurality of different computer

system resources to one or more resource pools involves: partitioning each of the

plurality of different computer system resources into one or more partitions (partitions),

wherein a first partition (one partition) is associated with a first resource and a second

partition (another partition) is associated with a second resource (col. 4, lines 18-27; col.

4, line 63 – col. 5, line 9); allocating the first partition to a single resource pool (logical

partition group), so that only processes (applications) associated with the single

resource pool can access the first partition; and allocating the second partition to

multiple resource pools (other logical partition groups) so that processes (applications)

associated with the multiple resource pools can share the second partition (col. 6, lines

10-66; col. 8, lines 15-20).

As to claim 4, UREVIG teaches establishing the first resource pool involves

selecting a file containing a representation of the first resource pool from a plurality of

possible files (via the STDM using a drive manager configuration utility to create or

modify a pool file) (col. 7, lines 52-62; col. 8, lines 19-55).

As to claim 5, UREVIG teaches storing a representation of the resource

allocation to storage (file storage) so that the resource allocation can be reused (col. 8,

lines 19-55). UREVIG teaches that the system is practiced on any computer for any

number of reasons (col. 4, lines 55-67). Official Notice is taken in that it is well known in

the art that files stored in a non-volatile computer memory system enable the system to

data to be accessed in light of machine failure and therefore would be obvious in view of

UREVIG in order to store resource allocation in light of all types of circumstances.

As to claim 6, UREVIG teaches storing the representation of the resource

allocation involves storing a representation of each of the one or more resource pools

(pools) along with associated resources (resources) (via the second or third pool file)

(col. 9, lines 20-41).

As to claim 7, UREVIG teaches a number of source code expressions, in one of

many computer languages, could be utilized to implement the present invention (col. 4,

lines 55-61). Official Notice is taken in that XML is a well known programming language

and therefore would be obvious in view of UREVIG in order to implement the resource

allocation in XML.

As to claim 8, EILERT teaches wherein the first resource pool (resources associated with a logical partition group) is associated with a first project (logical partition); and wherein the first process is one of a plurality of processes (applications / programs) associated with the first project (via from the creation of logical partitions and the binding of these partitions into a group) (col. 4, lines 18-37).

As to claim 10, UREVIG teaches dynamically adjusting the resource allocation during system execution (col. 3, lines 8-10).

As to claim 11, UREVIG teaches the plurality of different computer system resources can include: central processing units; semiconductor memory; swap space; and networking resources (abstract; col. 2, lines 50-53).

As to claims 12, 13, 15-19, 21 and 22, reference is made to a computer readable medium that corresponds to the method of claims 1, 2, 4-8, 10 and 11 and is therefore met by the rejection of claims 1, 2, 4-8, 10 and 11 above.

As to claims 23, 24, 26-30, 32 and 33, reference is made to an apparatus that corresponds to the method of claims 1, 2, 4-8, 10 and 11 and is therefore met by the rejection of claims 1, 2, 4-8, 10 and 11 above.

Response to Arguments

1.   Applicant's arguments filed 2/22/05 have been fully considered but they are not persuasive. Applicant arguments that both Urevig teaches allocating external resources and Eilert teaches allocating physical resources within a computer system such that both does not teach establishing minimum and maximum sizes for resources, and controls the allocation of the resources within a single computing system based upon these minimum and maximum sizes. Applicant states that this is beneficial because it allows a single system to more efficiently allocate its resources based upon these minimum and maximum sizes. The examiner disagrees. The claims as amended state that the establishing of a first resource pool that specifies requirements for each of a plurality of different computer system resources, wherein the plurality of different computer system resources are components of a single computer system. There is no language stated in the claims that the method is operating on a computer system to allow it to more efficiently allocate its resources. The claims only detail that the resources are components of a single computer system. Therefore, one can interpret this to mean that the resources are components typically associated with a computer system. The claims can also be interpreted as taking components of a computer system to be allocated to partitions / environments on another system. Stating that a resource pool is established based on requirements wherein the resources are components of a single computer system does not automatically mean that the environment is a single computer system environment. It just means that the resources come from a single computer system. Both of the cited prior art of record teach that resources are allocated from a single computer system / environment. Some of the

prior art of record teach that this allocating establishes minimum and maximum

requirements, i.e. priority requirements (EILERT, via setting the priority values in order

to perform I/O on an I/O resource) (col. 17, line 47 – col. 18, line 11). As detailed in the

112 section above, the claims set forth no relationship between the minimum and

maximum requirements to the collective requirements. Therefore, it is the examiner's

interpretation that these are distinct values. As indicated in the action above, the

combination teaches allocating the resources based on verifying the collective

requirements of the resource pool to be satisfied. Therefore, the combination

adequately teaches the claim limitations as disclosed above.

Conclusion

2.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (571) 272-3759. The examiner can normally be reached on Monday-Friday, 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 16, 2005
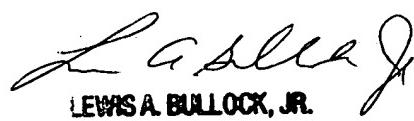
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